BÖLÜM 19

LİTYUM DİSİLİKAT SERAMİKLER VE GÜNCELLEMELER

Abdulhaluk SAVAŞ[1]

1. GİRİŞ

Metal-seramik restorasyonlar uzun yıllar boyunca altın standart olarak kabul edilmiş olsa da opak alt yapının estetiği sınırlaması ve biyolojik açıdan bazı dezavantajları, tam seramik restorasyonlara olan ilgiyi artırmıştır (1). Dental seramikler, günümüzde estetik ve fonksiyonel restorasyonların en önemli materyalleri arasında yer almaktadır. Özellikle son otuz yılda, biyouyumluluk, estetik ve mekanik özelliklerin aynı materyalde birleştirilmesi yönünde büyük ilerlemeler kaydedilmiştir (2).

Tam seramik materyallerin gelişiminde dönüm noktalarından biri, cam seramiklerin dental uygulamalara girmesi olmuştur. Feldspatik porselenlerin mükemmel estetik özelliklerine rağmen düşük mekanik dayanıklılıkları, araştırmacıları güçlendirilmiş cam seramikler geliştirmeye yöneltmiştir. Bu bağlamda lösit ile güçlendirilmiş seramikler ve devamında lityum disilikat esaslı cam seramikler, hem estetik hem de mekanik gereksinimleri karşılayan restoratif materyaller olarak ön plana çıkmıştır (3, 4).

Son yirmi yılda seramiklerdeki yeni mikroyapı tasarımları ve bilgisayar destekli tasarım-bilgisayar destekli üretim (CAD-CAM) teknolojisinin olgunlaşması, klinik iş akışını kökten dönüştürerek, hekim ve teknisyenlere daha hızlı, öngörülebilir ve çeşitlenmiş tedavi seçenekleri sunmuştur (5). Güncel pazarda, minimal invaziv veneerlerden çok üyeli posterior sabit bölümlü protezlere kadar hemen her indirekt endikasyon için farklı seramik sistemleri mevcuttur; ancak materyallerin ve üretim tekniklerinin inceliklerini ayırt etmek klinisyen için zorlayıcı olabilir (6).

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silikat tek üye kronlarda yüksek uzun dönem sağkalıma işaret ederken (8, 74) köprü endikasyonları kısa köprülerle sınırlı tutulmalıdır (86). Zirkonya ile güçlendirilmiş lityum silikat ve gelişmiş lityum disilikat materyaller ile nano lityum disilikat gibi yeni alt sınıflar, iş akışını hızlandırma, ayarlanabilir translusensi ve yüzey-dayanım onarımı gibi avantajlar sunar. Ancak glaze protokollerinin rolü ve çoklu pişirimin etkileri, markaya özgü olarak dikkatle yönetilmelidir (46, 47). Translusent zirkonya jenerasyonlarının optik iyileşmesine rağmen, anterior bölgede renk uyumu ve ışık yönetimi bakımından lityum disilikatın yeri korunmaktadır (79, 81). Yakın gelecekte, eklemeli imalat ile kişiselleştirilmiş lityum disilikat geometri ve içyapıları; biyoaktif/antibakteriyel yüzey fonksiyonları; ve yapay zeka destekli renk protokolleri klinik pratiğin parçası olabilir. Şimdilik en iyi sonuçlar için; endikasyon—tasarım—kalınlık üçlüsünü doğru seçmek; üreticiye özgü kristalizasyon ve glaze protokollerine uymak; spektral tabanlı renk ve uzatılmış polimerizasyon ilkelerini benimsemek; intraoral ayarlama sonrası yüksek kalite polisajı standartlaştırmak temel taşı olarak kalacaktır.

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